

Acute Transfusion Reaction Chart

Suspected Transfusion Reaction Signs & Symptoms	Timing of Symptoms	Immediate Actions	Next Step	Further Investigations & Procedures	Possible Etiology	Incidence	
Fever >38°C and ↑ of at least 1°C from baseline	38°C to <39°C and no other symptoms	During transfusion, usually towards the end	√ STOP transfusion but do not disconnect product √ RUN the 0.9% saline at KVO rate in different IV tubing	Send to TM - <i>Adverse Reaction Notification documentation</i> 1. Consider Acetaminophen 2. RESTART TRANSFUSION CAUTIOUSLY if product not expired (still <4 hrs from start of original transfusion) 3. Premed with antipyretic only after two episodes	FNHTR (febrile non-hemolytic transfusion reaction)	Red Cells 1:300 Platelets - 1:20	
	Or <39°C and chills, rigors, hypotension, shock nausea, vomiting, headache	Usually within the first 15 minutes but may be later		Order Transfusion Reaction Investigation Send to TM - <i>Adverse Reaction Notification documentation</i> -EDTA (purple top) blood sample -Offending product	1. DO NOT RESTART TRANSFUSION 2. Monitor pt status closely 3. Consider Acetaminophen 4. If bacterial contamination suspected, start antibiotics immediately 5. Consider Meperidine for shaking/chills 6. If bacterial contamination suspected order blood cultures and routine urinalysis. If patient experiences hemoglobinuria, flank pain, anxiety OR Lab reports plasma hemolysis present: 7. Draw CBC, electrolytes, creatinine, bilirubin, INR, PTT, fibrinogen & LDH 8. Monitor for hypotension, renal failure by measuring urine output/hour and DIC (oozing blood from different sites) 9. Start IV infusion of Normal Saline (Adult dose: 500 mL/hr and give 40 mg IV furosemide) to help prevent renal failure and consult with oncall nephrologist for further management	BACT (bacterial contamination)	RCs- 1:50,000 Platelets- 1:1,000
	Or ≥ 39°C, chills nausea, vomiting, pain, dyspnea, tachycardia, hypotension, bleeding, hemoglobinuria	Within 24 hours of transfusion		√ RE-CHECK patient ID band vs. blood bank number & blood label √ NOTIFY Physician/ Nurse Practitioner √ NOTIFY Transfusion Medicine	Send to TM - <i>Adverse Reaction Notification documentation</i> 1. Consider Acetaminophen 2. RESTART TRANSFUSION CAUTIOUSLY if product not expired (still <4 hrs from start of original transfusion) 3. Premed with antipyretic only after two episodes	1. DO NOT RESTART TRANSFUSION 2. If respiratory difficulty, activate Code Blue/respiratory 3. Mild to moderate reaction with stable V/S: corticosteroids (hydrocortisone Adults: 500 mg, Peds: 10mg/kg, to a max of 500 mg) antihistamine: dose varies per type of medication – per MD order 4. Severe anaphylactoid reaction and/or unstable V/S: IV/IM epinephrine (1:1000) IM Adults: 0.3-0.5 mL, Peds: 0.01mL/kg, (refer to product insert for max. dose), a bolus of Normal Saline (Adult: 500 – 1000 mL, Peds: 20 mL/kg,) – per MD order 5. Continuous monitoring (pulse, BP, resps, O ₂ sats) 6. Chest X-ray & urinalysis 7. May require special blood products in future (consult Transfusion Medicine Physician on call)	AHTR (acute hemolytic transfusion reaction)
Urticaria (hives) or Rash	<2/3 body affected and no other symptoms	During transfusion, up to 2-3 hours from start	√ CHECK vital signs or start continuous monitoring if severe reaction √ RE-CHECK patient ID band vs. blood bank number & blood label √ NOTIFY Physician/ Nurse Practitioner √ NOTIFY Transfusion Medicine	Send to TM - <i>Adverse Reaction Notification documentation</i> 1. Consider diphenhydramine IV or PO (Adults: 50 mg, Peds: 1mg/kg) 2. RESTART TRANSFUSION CAUTIOUSLY if product not expired (still <4 hrs from start of original transfusion) 3. Premed with antihistamine only after two episodes	Minor allergic	1:100	
	>2/3 body affected +/- Dyspnea, airway obstruction, SOB, ↓O ₂ sat, or ↓BP	Usually early in the transfusion		Order Transfusion Reaction Investigation Send to TM - <i>Adverse Reaction Notification documentation</i> -EDTA (purple top) blood sample -Offending product	1. DO NOT RESTART TRANSFUSION 2. If respiratory difficulty, activate Code Blue/respiratory 3. Mild to moderate reaction with stable V/S: corticosteroids (hydrocortisone Adults: 500 mg, Peds: 10mg/kg, to a max of 500 mg) antihistamine: dose varies per type of medication – per MD order 4. Severe anaphylactoid reaction and/or unstable V/S: IV/IM epinephrine (1:1000) IM Adults: 0.3-0.5 mL, Peds: 0.01mL/kg, (refer to product insert for max. dose), a bolus of Normal Saline (Adult: 500 – 1000 mL, Peds: 20 mL/kg,) – per MD order 5. Continuous monitoring (pulse, BP, resps, O ₂ sats) 6. Chest X-ray & urinalysis 7. May require special blood products in future (consult Transfusion Medicine Physician on call)	Severe allergic/ Anaphylactic/ Anaphylactoid	1:40,000
	AND Profound hypotension, loss of consciousness, circulatory collapse, death	Usually early in the transfusion		Order Transfusion Reaction Investigation Send to TM - <i>Adverse Reaction Notification documentation</i> -EDTA (purple top) blood sample -Offending product	1. DO NOT RESTART TRANSFUSION 2. If respiratory difficulty, activate Code Blue/respiratory 3. Continuous monitoring (pulse, BP, resps O ₂ sats) 4. Give diuretics (Furosemide), O ₂ , place in high Fowler's if condition allows 5. Subsequent transfusions: ↓ infusion rate (1 ml/kg/hr- max 4 hr/bag) 6. Consider preload with diuretic or between transfusions	Anaphylactic Shock	1:40,000
Dyspnea (SOB, ↓ O ₂ sats)	Congestive Heart Failure, +/- Hypertension, orthopnea, cyanosis, tachycardia, jugular venous distension, pulmonary edema, pedal edema, headache	During or within 6 hours of transfusion	√ NOTIFY Physician/ Nurse Practitioner √ NOTIFY Transfusion Medicine	Order Transfusion Reaction Investigation Send to TM - <i>Adverse Reaction Notification documentation</i> -EDTA (purple top) blood sample -Offending product	1. DO NOT RESTART TRANSFUSION 2. If respiratory difficulty, activate Code Blue/respiratory 3. Continuous monitoring (pulse, BP, resps O ₂ sats) 4. Give diuretics (Furosemide), O ₂ , place in high Fowler's if condition allows 5. Subsequent transfusions: ↓ infusion rate (1 ml/kg/hr- max 4 hr/bag) 6. Consider preload with diuretic or between transfusions	Circulatory Overload	1:700 (as high as 1:100 in elderly patients)
	Cyanosis, respiratory distress	Within 24 hours of transfusion		Order Transfusion Reaction Investigation Send to TM - <i>Adverse Reaction Notification documentation</i> -EDTA (purple top) and red top blood samples -Offending product Note: TM may ask for results of chest Xray	1. DO NOT RESTART TRANSFUSION 2. If respiratory difficulty, activate Code Blue/respiratory 3. Continuous monitoring (pulse, BP, resps, O ₂ sats) 3. O ₂ , possible intubation, ventilation or vasopressors 4. If bacterial contamination suspected → start antibiotics immediately If patient experiences hemoglobinuria, flank pain, anxiety OR Lab reports plasma hemolysis present: 5. Draw & send CBC, electrolytes, creatinine, bilirubin, INR, PTT, fibrinogen, LDH 6. Monitor for hypotension, renal failure by measuring urine output/hour and DIC (blood oozing from different sites) 7. Start IV infusion of Normal Saline (Adult dose: 500 mL/hour and give 40 mg IV furosemide) to help prevent renal failure and consult with oncall nephrologist for further management 8. Assess chest X-ray for bilateral pulmonary infiltrates.	Transfusion Associated Dyspnea	Unknown
	And/or Hypotension, tachycardia, fever, cyanosis	Within 6 hours of transfusion; usually within the first 15 minutes but may be later		Order Transfusion Reaction Investigation Send to TM - <i>Adverse Reaction Notification documentation</i> -EDTA (purple top) and red top blood samples -Offending product Note: TM may ask for results of chest Xray	1. DO NOT RESTART TRANSFUSION 2. If respiratory difficulty, activate Code Blue/respiratory 3. Continuous monitoring (pulse, BP, resps, O ₂ sats) 3. O ₂ , possible intubation, ventilation or vasopressors 4. If bacterial contamination suspected → start antibiotics immediately If patient experiences hemoglobinuria, flank pain, anxiety OR Lab reports plasma hemolysis present: 5. Draw & send CBC, electrolytes, creatinine, bilirubin, INR, PTT, fibrinogen, LDH 6. Monitor for hypotension, renal failure by measuring urine output/hour and DIC (blood oozing from different sites) 7. Start IV infusion of Normal Saline (Adult dose: 500 mL/hour and give 40 mg IV furosemide) to help prevent renal failure and consult with oncall nephrologist for further management 8. Assess chest X-ray for bilateral pulmonary infiltrates.	TRALI (transfusion related acute lung injury) Differentiate from BACT or AHTR	1:10,000 See above See above

NOTE: For additional assistance contact the Transfusion Medicine Physician/Pathologist on call